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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/647,081	11/13/2000	Timo Rantalainen	PM-273843	4065

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EXAMINER
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MEHRA,INDER P

ART UNIT	PAPER NUMBER
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2666

DATE MAILED: 07/29/2004 8

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/647,081

Applicant(s)

RANTALAINEN ET AL.

Examiner

Inder P Mehra

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 November 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-31 is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 November 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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### **DETAILED ACTION**

1. This office action is in response to Amendment A dated 5/12/04. Based on this amendment, claims 1-28 have been amended and new claims 29-31 have been added.

#### ***Drawings***

2. Claim 15 recite limitations, "the coordination between the transmission of radio bursts from at least two different base stations comprising at least one radio transmitter-----multiplexer is arranged to insert a synchronized radio burst -----synchronized timing". These limitations are not illustrated in the drawings.

Appropriate clarification/ correction is required. Applicant argued that Base station 100 is illustrated by "a box" in fig. 1 and in page 4 lines 6-8 of the specification it is stated ----several base stations 100 are controlled---by a base station controller 102., refer to "Remarks", page 9. It has been confirmed again that neither drawings nor specifications support the assertion made by applicant above. It is still maintained by the examiner that drawings do not illustrate the limitation as claimed.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1- 3 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hita de la Torre et al** (US Patent No. 5,533,028), hereinafter, Torre, in view of **Menzel** (US Patent No.6,707,807).

For claim 1- 3 Torre discloses, in reference to figs. 1-2, “ a method of transmitting synchronized channels in at least two radio transmitters-----”, refer to col. 2 lines 5-10, and col. 3 lines 5-10; characterized by:

- obtaining synchronized timing, refer to fig. 2, col. 3 lines 23-27;
- forming synchronized radio bursts (SB) the length of which is at most half of the length of a normal radio burst; at least one of which is transmitted, as recited by claim 2,; at least one synchronized radio burst in a burst in a burst having the length of a normal radio burst, as taught by claim 3, refer to col. 3 lines 28-36;
- transmitting synchronized radio bursts in place of normal radio bursts -----is synchronized with the obtained synchronized timing, refer to “burst synchronizing bits” col. 3 lines 18-35.

Torre does not disclose expressly the following limitations, which are disclosed by Menzel, as follows:

“transmitting a synchronized channel in a radio transmitter, in which, inter-alia, normal radio bursts are transmitted on a normal channel asynchronously”, ( refer to Menzel, s “access burst (random access burst) –normal burst---without time synchronization of the radio stations”, refer to col. 2 lines 13-16).

“the synchronized radio burst is transmitted in place of the normal radio burst such that transmission of the synchronized radio burst is synchronized with the obtained synchronized

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timing , as recited in claim 1”, Menzel discloses, “synchronized radio burst is transmitted in place of the normal radio burst such that transmission of the synchronized radio burst is synchronized with the obtained synchronized timing (synchronized in the selected time slot, col. 6 lines 55-60)”, refer to Menzel,s fig. 3, refer to col. 5 lines 50-55 and col. 6 lines 55-60.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability the synchronized radio burst is transmitted in place of the normal radio burst such that transmission of the synchronized radio burst is synchronized with the obtained synchronized timing , as recited in claim. The capability can be implemented by constructing the format of frame reference burst, as taught by Menzel. The suggestion/motivation to do so would have been to enable stations to maintain frame transmission synchronized with time.

For claim 14, Torre discloses, “the transmission of synchronized radio bursts only employs a part of the capacity of a normal channel ”, refer to “reduced synchronization field to perform the burst synchronization”, col. 2 lines 12-18.

5. Claim 4 rejected under 35 U.S.C. 103(a) as being unpatentable over **Hita de la Torre et al**, hereinafter, Torre, in view of Menzel, as in claim 1 above, and further in view of **Alvarez et al** (US Patent No.4,397,019), hereinafter, Alvarez.

For claim 4, Torre discloses all the limitations of subject matter including “padding bits

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(PAD)", refer to "guard field G" when no signal is used, refer to col. 3 lines 18-20 and col. 3 lines 45-50, with the exception of the following limitation, "the part of the burst ----synchronized radio burst (SB) consists of predetermined padding bits (PAD)";

Alvarez discloses more explicitly, "the part of the burst ----synchronized radio burst (SB) consists of predetermined padding bits (PAD)", refer to col. 7 lines 48-52;

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of adding padding bits to unfilled synchronized burst. The capability can be implemented by constructing the format of frame reference burst, as taught by Alvarez. The suggestion/motivation to do so would have been to enable stations to maintain bit synchronization.

6. Claims 5, 6, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hita de la Torre et al**, hereinafter, Torre, in view of Menzel, as in claim 1 above, and further in view of **Bilitza et al** (US Patent No5,390,216), hereinafter, Bilitza.

For claims 5, 6, 8, Torre and Menzel disclose all the limitations of the subject matter, with the exception of "synchronized radio burst comprises a predetermined bit pattern, as recited by claim 5; "the bit pattern is a training sequence", as recited by claim 6, and "placing the radio burst in a time slot", as recited in claim 8 .

Bilitza discloses, "synchronized radio burst comprises a predetermined bit pattern, as recited by claim 5; and "the bit pattern is a training sequence", as recited by claim 6, refer to col. 7 lines 20-25 and fig. 1.

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Bilitza discloses, “placing the radio burst in a time slot”, as recited in claim 8, refer to col. 5 lines 60-62, col. 6 lines 40-42 and col. 9 lines 4-8.;

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of adding bit pattern of training sequence. The capability can be implemented by constructing the format of frame reference burst, as taught by Bilitza. The suggestion/motivation to do so would have been to enable stations to maintain bit synchronization.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Hita de la Torre et al**, hereinafter, Torre, in view of Menzel, as in claim 1 above, and further in view of **Maloney et al** (US Patent No 6,108,555), hereinafter, Maloney.

For claim 7, Torre and Menzel disclose all the limitations of the subject matter, with the exception of, “the synchronized radio burst comprises information, ----location coordinates----- and/or the offset—time difference-----”

Maloney discloses, “the synchronized radio burst comprises information, ----location coordinates-----and/or the offset—time difference-----”, refer to col. 12 lines 15-20.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of synchronized burst including information of offset or time difference between the transmission moments of the ideal synchronized radio burst and the actual synchronous radio burst. The capability can be implemented by constructing the format of frame reference burst, as taught by Bilitza. The suggestion/motivation to do so would have been to determine the position of mobile station.

8. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hita de la Torre et al**, hereinafter, Torre, in view of Menzel, as in claim 1 above, and further in view of **Poon et al** (US Patent No. 5,940, 380), hereinafter, Poon.

For claims 9 and 10, Torre and Menzel disclose all the limitations of the subject matter, with the exception of , “the synchronized channel is transmitted by means of at least one normal physical channel, as recited by claim 9; “indicating on a control channel the physical channels to be used for the transmission of the synchronized channel”, as recited by claim 10.

Poon discloses, “the synchronized channel is transmitted by means of at least one normal physical channel, as recited by claim 9; “indicating on a control channel the physical channels to be used for the transmission of the synchronized channel”, as recited by claim 10, refer to fig. 4 and col. 5 lines 45-55.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of using control channel, synchronized channel and physical channel. The capability can be implemented by constructing the format of frame reference burst, as taught by Poon. The suggestion/motivation to do so would have been to determine the position of mobile station.

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Hita de la Torre et al**, hereinafter, Torre, in view of Menzel, as in claim 1 above, and further in view of **Uddenfeldt** (US Patent No. 5,805,633), hereinafter, Uddenfeldt.

For claim 11, Torre and Menzel disclose all the limitations of the subject matter, with the



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exception of , “the physical channel-----synchronized channel-----signaling information-----  
-”, as recited by claim 11;

Uddenfeldt discloses, “the physical channel-----synchronized channel-----signaling  
information-----”, as recited by claim 11, refer to col.1 lines 60-67;

It would have been obvious to a person of ordinary skill in the art at the time of the  
invention to use the capability of using control channel, synchronized channel and physical  
channel. The capability can be implemented by constructing the format of frame reference burst,  
as taught by Uddenfeldt. The suggestion/motivation to do so would have been to determine the  
position of mobile station.

10. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable **Hita de la Torre et al**,  
hereinafter, Torre, in view of Menzel, as in claim 1 above, and further in view of **Silventoinen et  
al** (US Patent No. 6,108,553), hereinafter, Silventoinen.

For claim 12, Torre and Menzel disclose all the limitations of the subject matter, with  
the exception of , “the method is used in a locating method, such as, the OTD (Observed time  
difference) method, as recited by claim 12;

Silventoinen discloses, “the method is used in a locating method, such as, the OTD  
(Observed time difference) method, as recited by claim 12, refer to col.4 lines 52-67;

It would have been obvious to a person of ordinary skill in the art at the time of the  
invention to use the capability of using the OTD (Observed time difference) method. The  
capability can be implemented by employing the method of using the OTD (Observed time

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difference) method, as taught by Silventoinen. The suggestion/motivation to do so would have been to determine the position of mobile station.

11. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Hita de la Torre et al**, hereinafter, Torre, in view of Menzel, as in claim 1 above, and further in view of **Avis** (US Patent No. 6,332,086), hereinafter, Avis.

For claim 13, Torre discloses all the limitations of the subject matter, with the exception of, “a synchronized radio burst is transmitted when the radio transmitter is in discontinuous transmission”, as recited by claim 13;

Avis discloses, “a synchronized radio burst is transmitted when the radio transmitter is in discontinuous transmission”, as recited by claim 13, refer to col. 6 lines 64-67;

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of “a synchronized radio burst is transmitted when the radio transmitter is in discontinuous transmission”. The capability can be implemented by employing the method of “a synchronized radio burst is transmitted when the radio transmitter is in discontinuous transmission”, as taught by Avis. The suggestion/motivation to do so would have been to send communication only when there is free time slot.

***Allowable Subject Matter***

12. Claims 15-31 are allowed.

13. The following is an examiner’s statement of reasons for allowance:

The prior art does not teach or fairly suggest the limitations of the following claims:

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As recited by claim 15,

“the multiplexer is arranged to insert a synchronized radio burst in the place of a normal radio burst such that the transmission of the synchronized radio burst is synchronized with the obtained synchronized timing”.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

#### ***Response to Arguments***

14. Applicant's arguments filed 5/12/04 have been fully considered but they are not persuasive.

Applicant argues that Torre reference fails to teach or suggest the claimed method of transmitting a synchronized channel in a radio transmitter, in which, inter-alia, normal radio bursts are transmitted on a normal channel asynchronously, as recited in independent claim 1 and its dependent claims.

In response, it is stated that preamble merely states the purpose or intended use of the claimed invention, rather than any distinct definition of any of the claimed invention's limitations. Preamble is not considered a limitation and is of no significance to claim construction. Claims are directed to limitations of transmitting a synchronized channel in a radio transmitter. However, Menzel (new US reference Patent No. 6,707,807) discloses, “transmitting a synchronized channel in a radio transmitter, in which, inter-alia, normal radio bursts are

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transmitted on a normal channel asynchronously”, ( refer to “access burst (random access burst) –normal burst---without time synchronization of the radio stations”, refer to col. 2 lines 13-16).

Applicant argues that Torre clearly does not disclose, teach or suggest that the synchronized radio burst is transmitted in place of the normal radio burst such that transmission of the synchronized radio burst is synchronized with the obtained synchronized timing , as recited in claim 1.

In response, it is stated that Menzel discloses, “synchronized radio burst is transmitted in place of the normal radio burst such that transmission of the synchronized radio burst is synchronized with the obtained synchronized timing (synchronized in the selected time slot, col. 6 lines 55-60)”, refer to fig. 3, refer to col. 5 lines 50-55 and col. 6 lines 55-60.

**In light of above explanation, arguments by applicant are not persuasivr.**

### *Conclusion*

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Inder P Mehra whose telephone number is 703-305-1985. The examiner can normally be reached on 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Seema Rao can be reached on 703-308-5463. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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